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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,867	09/29/2003	George M. Zimmer	260006.444	6308
500 7590 03/24/2005 SEED INTELLECTUAL PROPERTY LAW GROUP PLLC 701 FIFTH AVE SUITE 6300 SEATTLE, WA 98104-7092			EXAMINER PAIK, SANG YEOP	
			ART UNIT 3742	PAPER NUMBER
DATE MAILED: 03/24/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/674,867

Applicant(s)

ZIMMER, GEORGE M.

Examiner

Sang Y Paik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-25 and 27-32 is/are rejected.
7) ☒ Claim(s) 26 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-7, 20, 24, 29 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Roller et al (US 4,371,777).

Roller et al shows a fluid heater including a first and a second bus plates (9), a plurality of PTC heating elements made of ceramic materials (10) with a first and a second conductive layers (9) or plates wherein the PTC elements are sandwiched between the conductive plates in an electrically parallel configuration, a first and a second electrically insulative pads (15), a fluid heating tube in a first heat exchanger block and in a second heat exchanger block (2), and the heat exchangers are in thermal contact with the fluid heater.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Nauerth (US 4,327,282).

Nauerth shows a heater including a first and a second bus plates (4), a plurality of PTC heating elements made of ceramic materials (1) with a first and a second conductive means (3) or plates wherein the PTC elements are sandwiched between the conductive plates in an electrically parallel configuration, and a first and a second electrically insulative pads (11).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 8-13, 15-19, 21-23, 27, 28, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roller et al (US 4,371,777) in view of Gusmer (US 3,782,456).

Roller et al shows the fluid heater claimed except a cavity formed in the surface of the heat exchanger to dispose and encase the heater therein.

Gusmer shows a heat exchanger with a heater disposed and encased within a cavity formed in the surfaces of the heat exchangers. Gusmer shows that the heater is in thermal contact with the surfaces of the heat exchangers where the heat exchangers have a non-planar surface mated together, and a chamber that is formed by the cavity conforms to the shape of the heater.

In view of Gusmer, it would have obvious to one of ordinary skill in the art to adapt Roller et al with a cavity formed on the surfaces of the heat exchanger to dispose and encase a heater therein so that better thermal transfer can be maintained without heat loss.

With respect to claims 30 and 31, it would have been obvious to one of ordinary skill in the art to provide varying heating temperature to the fluid heater to produce a desired heating fluid including a liquefied gas since Roller et al leaves it to one of ordinary skill in the art many other various purposes with different heating powers.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roller et al in view of Gusmer as applied to claims 4, 8-13, 15-19, 21-23, 27, 28, 30 and 31 above, and further in view Mexiner (US 4,230,935).

Roller et al in view of Gusmer shows the fluid heater claimed except an aperture in communication with the cavity for supplying the electrical cable to the heating element.

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Mexiner shows a housing with a cavity into which a PTC heating element is disposed therein with an aperture for coupling the electrical supply cable to the heating element therein, and, furthermore, a tube is provided around the cable to seal aperture as well as the electrical cable. In view of Mexiner, it would have been obvious to one of ordinary skill in the art to adapt Roller et al, as modified by Gusmer, with an aperture associated with the cavity so that electrical cable can be alternatively and more conveniently provided to the heater.

7. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roller et al (US 4,371,777) in view of Bohlender et al (US 4,814,584).

Roller et al shows the fluid heater claimed except an alignment mask.

Bohlender et al shows an alignment mask to hold a plurality of PTC heating elements in place as they further make electrical contact with the bus plates. In view of Bohlender et al, it would have been obvious to one of ordinary skill in the art to adapt Roller et al with the alignment mask to hold the PTC heating elements in place with respect to the bus plates so that a proper electrical contact can be made.

Allowable Subject Matter

8. Claims 26 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 1/4/05 have been fully considered but they are not persuasive. The applicant argues Roller does not show the elements claimed and argue that Roller does not show the claimed bus plates and shows only a single heating element 5. This

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argument is not deemed persuasive since the recited elements of the PTC heating stones are shown by 10 and the conductive plates shown by 9. The applicant argues that Roller shows a single heating element whereas the claims recite for the plurality of PTC elements. Roller describes the heating unit assembly as a heating element with a plurality of PTC elements. This structure is the same as the applicant's recitation of its heating element further having the PTC elements. With respect to Nauerth, the applicant argues that Nauerth fails to show the first and second bus plates between which the plurality of PTC elements is sandwiched. This arrangement is clearly shown in Figure 2 of Nauerth wherein the PTC elements are shown by 2 with the bus plates (4) sandwiching the PTC elements.

The applicant argues that Roller does not show the heating element being encapsulated in a cavity between the first and second blocks. However, as shown in Figure 5, it is clearly shown that a cavity is formed between the blocks (2) wherein the heating element is fully disposed or encapsulated therein. The applicant argues that the "enclosed" heating element is meant to having the heating element that is fully enclosed, and argues that the heating element in Roller shows at least two sides open. The word "encapsulated" can be broadly interpreted as being "enclosed" whereby the enclosed can be defined as being to place inside a container or inserted in a package. The heating element as shown in Roller is placed inside a container or cavity defined by the cavity formed by the heating block which is clearly shown in Figure 5. Since the applicant has not explicitly recited for the complete and fully enclosed heating element, the examiner has given the word "encapsulated" its broadest meaning possible not necessarily confined to its specific embodiment as shown by the applicant's drawing figures.

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With respect to Gusmer, the word “cavity” has a broad meaning of having a hollow body wherein the hollow body can be broadly defined as having a concave body. Since Gusmer has the concave body formed on the block, it meets the recited cavity as recited in claim 4. The recitation of cavity is given its broadest meaning possible and not confined to the applicant’s exemplary embodiment as argued by the applicant. The recited “chamber” which is created by the cavity formed on the block surface is also met by Gusmer which shows forming a cavity with the cavity that is formed on the respective surfaces of the block body.

With respect to Mexiner, the applicant argues that since the Meixner’s device is used differently as an immersed heater than that of the Roller and Gusmer references, it would not have been obvious to employ the electrical cable extension to the heating element. This is not deemed persuasive since Mexiner shows an encapsulated heating element which requires an aperture wherein it is necessary to provide such cable in order to supply power to the heating element. While, the device of Mexiner is used in a different environment as that of Roller and Gusmer, they are all in the same field of endeavor which is in the electrical heating devices field where they all require an access to power the heating element via an electrical connection such as an electrical cable.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y Paik whose telephone number is 571-272-4783. The examiner can normally be reached on M-F (9:00-4:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sang Y Paik
Primary Examiner
Art Unit 3742

syp